Asthma and Learning Readiness -
When You Can't Breathe, Nothing Else Matters®

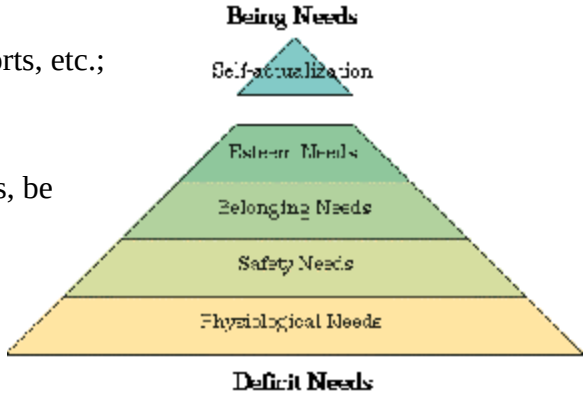
Much of what we understand about current learning theory is based, if indirectly, upon an understanding of Maslow's hierarchy of needs. Maslow posited a hierarchy of human needs based on two groupings: deficiency needs and growth (or being) needs. Within the deficiency needs, each lower need must be met, to some degree, before moving to the next higher level. The first four levels are:

1) Physiological: hunger, thirst, bodily comforts, etc.;

2) Safety/security: out of danger;

3) Belonginess and Love: affiliate with others, be accepted; and

4) Esteem: to achieve, be competent, gain approval and recognition.



Foundational to all other needs, a child's physiological needs must first be met before he/she can even begin to recognize the higher need levels. For instance, we know that the average individual can live approximately 30 days without food, 3 days without water, but only 3 minutes without air. Of what importance is self-actualization to one who is starving or to one who is drowning?

Applying this hierarchy to learning readiness, educators have learned that a hungry child has difficulty learning. We have developed programs to address this very basic need. We feed the child before we expect the child to learn.

Likewise, an unhealthy child has difficulty learning. It can be argued that the behavior of individuals at a particular moment is usually determined by their strongest need. It follows that if a child is having difficulty breathing, to whatever extent, the focus of the child's energies will be on breathing and not on the lessons at hand.

Asthma

Asthma is the most common chronic illness among children. Over five million children have asthma. Since 1980 asthma prevalence in children has more than doubled. The most rapid increase in prevalence has occurred in children under the age of 5, with that rate increasing over 160 percent. For reasons not yet clear, studies show a strong correlation between poverty and asthma prevalence.

What is asthma? Asthma is a chronic inflammatory disease of the respiratory tract. The airways of individuals with asthma are sensitive to substances that are common in the environment. When a person with asthma is exposed to one of these substances, it triggers a cascade of events. The inside walls of the bronchial tubes become inflamed and swell. Muscles that surround the bronchi contract, squeezing them even tighter. Mucus is produced in greater amounts within

the bronchi, adding to the obstruction. The result is wheezing, coughing, increasing difficulty in breathing, and tightness of the chest. Out of control, asthma can lead to permanent lung damage and even death.

The "A, B, C's" of Asthma Challenges

One reason Johnny may not be able to read is that he simply can't breathe. For asthmatic children, asthma presents learning challenges.

"A" is for Attendance – It is estimated that nationally, approximately ten percent of school children may have asthma. Asthma is the leading cause of school absenteeism with asthma-related illnesses accounting for more than ten million lost school days. One study reported the absence rate is three times higher among children diagnosed with asthma.

A basic necessity of learning starts with "A" as in attendance. The American Academy of Allergy and Immunology states that, "Going to school with asthma introduces two sometimes opposing realities. The first reality is that uninterrupted daily attendance at school maximizes a child's chances to learn and provides the student with the continuity of instruction necessary to reach his or her potential. The second reality is that asthma is a largely unpredictable disease, and it often interrupts learning by distracting [the child] or keeping children away from school."

"B" is for Behavior – Asthma has an impact on the social and emotional, as well as the physical, health of a child. A child may feel "different" because he/she has to sit down during playtime, or avoid touching the classroom pet because it may trigger an asthma attack. Or the child may feel embarrassment over having to take his/her medication in front of peers. Anxiety is also common among children who may be experiencing difficulty breathing. Children who are being emotionally challenged are less likely to engage actively in the learning process.

For a child, difficulty breathing, or the medications prescribed to assist the child's breathing, may cause behaviors that can limit a child's participation in the learning process. Fatigue or drowsiness can simply be the result of a sleepless night caused by coughing. Asthma medications can cause side effects such as nervousness, nausea, jitteriness, hyperactivity, and inability to concentrate, any one of which can pose a significant barrier to learning.

There is, however, some good news.

"C" is for Control, but not Cure – At this time, there is no cure for asthma. Fortunately, new ways of controlling asthma and managing it long term are available, thus making it possible to reduce asthma's personal, social, and economic burdens. Children with asthma can live normal lives in which the disease has a minimal impact on their daily activities and learning progress.

Children with asthma need proper support in their learning environment to keep their asthma under control and be fully active. Head Start staff, health professionals, and parents can work together to remove obstacles and to promote students' health and education.

There are four components of a school-based asthma management program: asthma-friendly policies; healthy environment; asthma education; and communication.

Asthma-friendly policies include providing a full-time school nurse. However, many schools are fortunate if they have access to a very part-time nurse. While difficult to attain, it is still a best-management practice (and not just for asthma.) Another asthma-friendly policy is that every child with asthma will have a written, physician-directed asthma management plan on file. This plan should include a strategy to manage chronic and worsening symptoms, a list of medications to be taken and instruction on when and how to take them, measures to prevent exercise induced asthma attacks, and a list of known asthma triggers. The third asthma-friendly policy is that every school would have an asthma action plan. This plan is different than the asthma management plan in that it directs staff action in an asthma emergency. An asthma attack can be a life-threatening event. Anyone who may have to care for a child under these circumstances needs to know what the school policies require. Does the staff know what to do? Whom to call? When to call, etc.? Some of these answers can come through a staff asthma management training program.

Healthy Environment - Since children spend most of their time in school, child care facilities, or at home, it is important to reduce their exposure to environmental asthma triggers as much as possible in each of these environments. Many indoor air quality problems in schools can impact the health of students and staff, including those with asthma. Some of the sources of indoor air quality problems include: carpets; old upholstered furniture; chemical pollutants from building or building maintenance materials; chemical pollutants from science or art classes; improperly maintained ventilation systems; and allergens from classroom animals and cockroaches or other pests. Mold growth may result from standing water in maintenance rooms and near piping, or from excess moisture in ceiling tiles, carpets, and other furnishings. Also, outdoor air pollutants and pollens may enter the school through ventilation systems and/or open doors and windows.

Asthma Education - Schools have a "duty to care" shared by all staff members. This duty arises because students are required to be at school, away from their usual sources of protection (parents.) This duty may require administering medication, monitoring health status, providing specialized staffing or training to staff, and protecting students from emotional distress. As a result, all faculty and staff should, as a matter of school policy, participate in asthma management training. Of course, every child who has asthma should know about his/her condition and how to manage it, but in addition, other children in the school should know something about asthma.

The final component of a school-based asthma management program is perhaps the most important: communication. The asthma management team includes the child, parents, school staff, and the child's physician. Parents and staff should monitor the child's learning, absenteeism, and the school environment. Any changes in the child's symptoms or behavior should be communicated to the other team members. If all members of the asthma management team are monitoring the child's behavior and communicating with the other team members, we can achieve optimal asthma control and enhance the child's learning opportunities.

Asthma problems can't be solved in the school environment alone, but together, we can make a difference. Successful asthma management means that children with asthma can live active, healthy lives. There is a clear connection between school health interventions and student success.

Resources for further information:

Asthma and Schools – Linking teachers, administrators, and other school personnel with resources and information on asthma. http://www.asthmaandschools.org/

National Asthma Education and Prevention Program – The NAEPP works with intermediaries including major medical associations, voluntary health organizations, and community programs to educate patients, health professionals, and the public.
http://www.nhlbi.nih.gov/about/naepp/index.htm

Knowledge Path: Asthma and Children – this site has great links for further information
http://www.mchlibrary.info/documents/asthma.html

If you have questions or need additional information, please contact the Asthma Program at (208)334-5927, or contact the Idaho CareLine at 211 or (800)926-2588 [TDD (208)332-7205].

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